

ATTACHMENT 5 INSPECTION PLAN

5.1 INSPECTION PLAN

5.1.1 General Inspection Requirements

The U.S. Army Chemical Agent Munitions Disposal System (CAMDS) facility is inspected according to the inspection schedule in Table 5-1. The inspections of equipment and the hazardous waste management units are designed to detect deterioration and prevent possible equipment malfunctions that would cause a release of hazardous waste to the environment or pose a threat to human health.

CAMDS will inspect the equipment and hazardous waste management units described in this section for the types of problems and at the frequencies specified in Table 5-1. All inspection logs and records shall include and clearly present the information specified in Table 5-1.

Specific Inspections Required by Subpart CC Regulations

Subpart CC regulations include the requirement to perform inspections of tanks, containers, closed vent systems and VOC control devices specifically for problems that could cause volatile organic compound (VOC) emissions. §264.1088 of Subpart CC requires a written plan and schedule for the inspection and monitoring requirements. These requirements have been added to this Inspection Plan Attachment to the CAMDS operating permit.

5.1.1.1 Types of Problems

The types of problems to look for during the inspections are identified in Table 5-1 in the "Types of Problems" column (or written equivalent instructions at the facility). For compliance purposes, if written equivalent instructions are used in lieu of the items in Table 5-1, the written equivalent instructions will be considered enforceable parts of Table 5-1.

5.1.1.2. Frequency of Inspection

The frequency of inspection, given in Table 5-1 in the "Frequency" column, is based on the rate of possible deterioration of equipment and the probability of an environmental or human health incident if the deterioration, malfunction, or operator error goes undetected between inspections. The purpose of inspections is to prevent releases and protect human health and the environment.

Where appropriate, the inspection frequencies have been developed from operational knowledge gained at the CAMDS, manufacturer recommendations, Army Standing Operating Procedures (SOPs), Occupational Safety and Health Administration (OSHA) regulations and specific regulated unit requirements in 40 CFR Part 264.

5.1.1.3 Safety and Emergency Equipment

Safety and emergency equipment is inspected based on criteria as indicated in Table 5-1. The inspection of safety and emergency equipment is an in-depth inspection designed to detect depleted stock or items with excessive wear.

5.1.2 Specific Process Inspection Requirements

5.1.2.1 Container, Container Storage Area and Waste Pile Inspections

Table 5-1 lists inspection criteria for containers, container storage areas, and containment systems load/unload areas and waste piles.

The container storage areas, containment systems of the secondary containment areas and less than 90-day areas, load/unload areas and waste piles are inspected weekly when hazardous waste is in storage. Containers are not left unattended in the load/unload areas and are immediately moved into the storage areas.

Subpart CC Requirements for Containers

Containers managing wastes subject to Subpart CC controls (ie. containing greater than 500 ppmw VOCs) will be inspected initially (when the waste is first placed in the container) and thereafter every 12 months. The container and its cover must be free of visible cracks, holes, gaps or other openings into the interior of the container.

5.1.2.2 Tank Inspection

Each tank system is inspected once each operating day when liquids are present. Normal visual observation by operators is conducted by viewing through windows. Remote Closed Circuit Television (CCTV) cameras and/or mirrors may also enhance visual inspection. Cameras are equipped with pan/tilt, zoom, and wide-angle features to allow thorough viewing of the area within the field of vision. When personnel enter the area for routine operation and maintenance activities, visual inspections are conducted. The inspection addresses inspection of overfill control equipment, aboveground portions of the tank system, data gathered from monitoring and leak detection equipment, condition of construction materials, and the area immediately surrounding the externally accessible portion of the tank system, as well as the secondary containment system to include containment sumps. Tank system inspection schedules and procedures and other activities are addressed in various parts of Table 5-1.

Tank Inspections (Subpart CC)

Inspect tank roofs and closure devices for structural integrity. Specifically check for visible cracks, holes, or gaps in the roof or between the roof and the tank wall; broken, cracked or damaged seals or gaskets on closure devices; broken or missing parts of hatches, covers, manways, etc. These inspections must be completed and documented at least once per year, unless the following condition applies:

If monitoring the tank cover exposes the worker to dangerous, hazardous, or other unsafe conditions. A written explanation must be filed stating the reasons why the tank cover is unsafe to visually inspect. A written plan and schedule must be developed that states when the tank cover can be safely inspected and monitored.

Any defects found as a result of the above inspections must be repaired promptly. A first attempt at repair must be done no later than 5 calendar days after the discovery of the defect or problem. Repairs must be completed no later than 45 calendar days after the date of discovery unless the repair work requires emptying or taking the tank out of service, and no other tank capacity is available for temporary storage.

5.1.2.3 Sump Inspection

The sumps will be inspected on a daily basis when operating either directly or in the remote manner as previously described as part of the tank systems. The inspection will consist of a visual observation of the sumps and a check on the operation of the level indicators in the sumps. The inspections are documented as described in Table 5-1.

5.1.2.4 Incinerator Inspection

The incinerators, ancillary equipment, and air filter systems are visually inspected daily, when incinerating hazardous waste, for leaks, spills, fugitive emissions, proper operating conditions and signs of tampering. Routine daily inspection of the incinerators ancillary equipment air filter system will be conducted by Operations and Quality Assurance personnel. Remote CCTV cameras strategically located in these areas will also be used. Use of remote cameras will limit the number of entry operations. The routine inspections may be supplemented by the personnel entering the area.

The emergency waste feed cutoffs and associated alarms are tested at the start of each test, but not less than once per operating week to verify their operability. Positive indications that the waste feed cutoff system and associated alarms are operable may be observed from the control room by manual activation of the cutoff valve and cross checking the waste feed flow sensors. The incinerator process monitoring and recording equipment is inspected for unusual readings that suggest a potential malfunction. The instruments are inspected once each operating day when hazardous waste is being incinerated. The incinerator inspection criteria and frequency are presented in Table 5-1.

5.1.2.5 Ventilation Filter System

Ventilation filter systems are inspected daily when in operation and before placing into service, based on inspection criteria presented in Table 5.1. Detailed description of CAMDS filter systems is contained in Attachment 18.

5.1.2.6 Inspection and Monitoring Required by Subpart CC

Sections of the ventilation system that operate at pressures equal to or above atmospheric, and that are semi-permanently or permanently sealed (welded joints or gasketed, flanged sections) will be visually inspected for defects that could result in air emissions. All duct interfaces, connections, and equipment penetrations will be inspected at least once per year.

Sections that are not permanently or semi-permanently sealed will be monitored at least once per year (or more frequently, if requested by the Regional Administrator) in accordance with EPA Method 21.

Sections of the ventilation system that operate at a pressure below atmospheric will be visually inspected for defects that could lead to air emissions (look for visible cracks, holes, or gaps in ductwork or piping, or loose connections). An initial inspection will be performed on or before the system becomes subject to Subpart CC. Thereafter, an inspection will be performed at least once each year.

Repairs of Defects noted in inspections: for emissions detected visually or by instrument readings of greater than 500 ppmv VOCs above background, repairs will be made within 15 calendar days, and the first attempt at repair will be made no later than 5 days from when the emissions were detected. Such repairs may be delayed only if the following conditions exist: if the repair is not technically feasible without a process unit shutdown, or if the owner/operator determines that emissions resulting from immediate repair would be greater than that resulting from delaying the repairs.

5.1.3 Inspections of Sub Part X Units

5.1.3.1 Material Decontamination Chamber Inspection

The Material Decontamination Chambers (MDC2), units A and B, and associated equipment are visually inspected daily (when in operation) for proper ventilation system operation and area chemical agent monitoring. The temperature gauges and controls are also inspected to ensure that the proper temperatures and airflows are maintained during operation. The air filter and pressure system, chamber, and access door are visually inspected for signs of physical damage, wear, or deterioration that could compromise the chamber integrity. The recirculation fan is checked for excessive noise or vibration.

5.1.3.2 Multipurpose Demilitarization Machine Inspection

The Multipurpose Demilitarization Machine (MDM) and associated equipment are visually inspected daily (when in operation) for proper ventilation system operation and area chemical agent monitoring. During operation, the MDM is viewed by the CMO via CCTV and data is presented on control room screens to monitor processing of munitions. Direct observation through the MDM control room window adjacent to the MDM is also used to monitor processing of munitions. The CMO or MDM room observer(s) also looks for signs of obvious physical damage, wear, or deterioration of the equipment. The hydraulic and pneumatic systems are inspected to ensure that proper pressures are maintained during operation.

5.1.3.3 Projectile/Mortar Disassembly Machine Inspection

The Projectile/Mortar Disassembly Machine (PMD) and associated equipment are visually inspected daily (when in operation) for proper ventilation system operation and area chemical agent monitoring. During operation, the PMD is viewed by the CMO via CCTV and data is presented on control room screens to monitor processing of munitions. The CMO or the PMD room observer(s) also looks for signs of obvious physical damage,

wear, or deterioration of the equipment. The hydraulic and pneumatic systems are inspected to ensure that proper pressures are maintained during operation.

5.1.3.4 Bulk Drain Station Inspection

The Bulk Drain Station (BDS) and associated equipment are visually inspected daily (when in operation) for proper ventilation system operation and area chemical agent monitoring. During operation, the BDS is viewed by the CMO via CCTV and data is presented on control room screens to monitor processing of munitions. Direct observation through the MDM control room window adjacent to the BDS is also used to monitor processing of bulk items. The CMO or the MDM room observer(s) also looks for signs of obvious physical damage, wear, or deterioration of the equipment. The hydraulic and pneumatic systems are inspected to ensure that proper pressures are maintained during operation.

5.1.3.5 Rocket Separation Machine Inspection

The Rocket Separation Machine (APE 1240) and associated equipment are visually inspected daily (when in operation) for proper ventilation system operation and area chemical agent monitoring. During operation, the APE 1240 is viewed by the CMO via CCTV and data is presented on control room screens to monitor processing of munitions. The CMO or the APE 1240 room observer(s) also looks for signs of obvious physical damage, wear, or deterioration of the equipment. The hydraulic and pneumatic systems are inspected to ensure that proper pressures are maintained during operation.

5.1.4 Remedial Action

If inspections show that non-emergency maintenance is needed, it will be completed expeditiously to prevent damage and obviate the need for emergency response. If it is found during an inspection (or between inspections) that a hazard is imminent or has already occurred, remedial action measures will be undertaken immediately. A detailed description of remedial action measures and notification procedures for incidents involving hazardous waste release is provided in Attachment 9.

5.1.5 Inspection Log

Inspection logs listed in Table 5-1 are kept at the facility. The logs are the written record of the items inspected, frequency of inspection, and types of problems for which items are inspected as contained in the inspection schedule outlined in Table 5-1.

The inspection logs record the date and time of inspections, inspector's name, items inspected, a notation of whether the items inspected were in acceptable condition. A notation of other observations any repairs or other remedial actions needed or made since the last inspection will be annotated. The records are kept for a minimum of three (3) years from the date of inspection. Table 5-1 entitled *INSPECTION SCHEDULE*, details the inspections for the various locations and process equipment as indicated above and is presented at the end of this section. Inspection logs will be made available to regulatory personnel within 4 CAMDS business days of request.

5.2 DATA COLLECTION AND OPERATING LOGS

A variety of operational data is collected and stored by CAMDS that can be used to demonstrate compliance with R315-8-5.3 (40 CFR 264.73), Operating Records, and 40 CFR 264.347, Monitoring and inspection of incinerators.

5.2.1 Description and Quantity of Hazardous Waste Received

The generation of salts from treatment of spent decontamination solution is accounted for by the amount of brine that enters the system, tank readings and weights or volumes of filled containers in the brine drying area. This data is available at CAMDS.

5.2.2 Location of Hazardous Wastes

Hazardous wastes may be located in any of the hazardous waste management units including container storage areas, tank systems and sumps. The types and quantities of wastes to be collected in the Container, Tank and Waste Pile Storage areas is described in Attachments 12 and 13. The amount of waste present at the incinerators, brine dryer area and other hazardous waste management units depends on current operations. The maximum amount of waste that can be present at any one time at each hazardous waste management unit is detailed in Attachment 12.

5.2.3 Records and Results of Waste Analysis

These data are available at CAMDS. The data collected and maintained are consistent with the Waste Analysis Plan.

5.2.4 Summary Reports and Details of Incidents Requiring Implementation of the Contingency Plan

These reports are available at CAMDS in the event that they are necessary, and will be made available in a timely manner upon the request of the Executive Secretary or his representative.

5.2.5 Records and Results of Inspections

These records are maintained at CAMDS for three (3) years. These records will be made available to the Executive Secretary or his representative and contain all the information shown in Table 5-1.

5.3 Land Disposal Restrictions

Records showing that wastes are managed in accordance with the requirements of the land disposal restrictions are also maintained. Records are maintained as outlined in R315-8-5.3 (40 CFR 264.73(b)(10-16) and R315-13 (40 CFR 268) as applicable.

Table 5-1 INSPECTION SCHEDULE		
Item 264.15(b)(1)	Frequency^a 264.15(b)(4)	Types of Problems 264.15(b)(3)
METAL PARTS FURNACE		
Inspection of incinerator hardware such as valves, pipes, fittings, etc.	W	Visually inspect for leaks, spills, fugitive emissions, and signs of tampering.
CONTAINERS, STORAGE AREAS AND WASTE PILES		
Containers	Initially and W	Visually inspect container and cover for cracks, holes, leaks, deterioration, rust, corrosion, trends that indicate a possible problem and piece count. Check accumulation start dates and container labeling. Check for adequate aisle space.
Storage Areas and Waste Piles	W	Visually inspect for liquid/solid wastes in proper areas and waste compatibility. Verify that required signs are visible, appropriate fire fighting, spill and other emergency equipment is accessible and available, and that the area is secure.
Containment Systems	W	Inspect floor and curbing of the storage area or containment system for cracks, flaking, chips or gouges, and for areas that may indicate excessive wear or deterioration. Examine floor surface for evidence of contamination.
Load/Unload Areas	W	Inspect condition of containers and general area and inspect for leaks and spills.
90 DAY ACCUMULATION AREAS		
Containers	Initially and W	Visually inspect for leaking containers and cracks, gaps, or open spaces in covers, deterioration of containers, rust, corrosion, or trends that indicate a possible problem. Check accumulation start dates (90-day areas only) and container labeling. Check for adequate aisle space and that satellite containers are labeled as waste and under operator control.
Containment Systems (90 Day Accumulation areas only)	W	Inspect floor and curbing of the storage area or containment system for cracks, flaking, chips or gouges, and for areas that may indicate excessive wear or deterioration. Examine floor surface for evidence of contamination.
METAL PARTS FURNACE AND LIQUID INCINERATOR POLLUTION ABATEMENT SYSTEM		
Pollution abatement system	W	Visually inspect for leaks, spills.
CHEMICAL AGENT STORAGE TANKS (LIC, MDM) *tanks are inspected weekly when not in operation		
Tank area	D*	Visually inspect for evidence of leakage, cracks, chips or gouges that would allow seepage into construction materials or ground.
Piping and valves	D*	Visually inspect for evidence of corrosion and leakage.
Tank structure	D*	Visually inspect for evidence of corrosion, erosion, leaking seams or fixtures.
Secondary containment system and containment sumps	D*	Visually inspect for evidence of cracks, erosion of construction materials or other physical damage.

Table 5-1 INSPECTION SCHEDULE		
Item 264.15(b)(1)	Frequency^a 264.15(b)(4)	Types of Problems 264.15(b)(3)
Tank Roofs and Closure Devices (headspace pressure below atmospheric)	Y	Inspect visually for defects (cracks, holes, gaps, broken or damaged seals or gaskets, broken or missing hatches, access covers, etc.) that could lead to air emissions.
Tanks	D*	Visually inspect aboveground parts of tank system (tank shell and bottom piping and valves, pumps, tank supports and construction materials) for corrosion, deterioration leaks and spills.
	D*	Visually inspect secondary containment and the area around the tank system for corrosion, cracks, erosion of construction materials and releases.
WASTE LIQUID STORAGE TANKS (TMF) *tanks are inspected weekly when not in operation		
Tank Roofs and Closure Devices		
Tank area	D*	Visually inspect for evidence of leakage, cracks, chips or gouges that would allow seepage into construction materials or ground.
Piping and valves	D*	Visually inspect for evidence of corrosion and leakage.
Tank structure	D*	Visually inspect for evidence of corrosion, erosion, leaking seams or fixtures.
Pumps	D*	Visually inspect connections for evidence of obvious mechanical failure. Check for excessive noise and vibration.
Tank supports	D*	Visually inspect for evidence of corrosion.
Secondary containment system and containment sumps	D*	Visually inspect for evidence of cracks, erosion of construction materials or other physical damage.
Level sensors (TMF)	D*	Check for proper operation at control panel.
Overfill/spill control equipment Tanks	D*	Visually inspect for evidence of corrosion, leakage or other physical damage.
	D*	Visually inspect aboveground parts of tank system (tank shell and bottom piping and valves, pumps, tank supports and construction materials) for corrosion, deterioration leaks and spills.
	D*	Visually inspect secondary containment and the area around the tank system for corrosion, cracks, erosion of construction materials and releases.
	D*	Review data from air and liquid monitoring and leak detection equipment (e.g., level sensors). Verify that monitoring and leak detection equipment is operating properly and is calibrated properly
	M	Monthly or after each agent campaign or test, physically determine the amount of liquid and sludge in the tank.
BRINE DRYING AREA STORAGE TANKS (T13D & T13E) *tanks are inspected weekly when not in operation		
Overfill/spill control equipment	D*	Visually inspect for evidence of corrosion, leakage or other physical damage.

Table 5-1 INSPECTION SCHEDULE		
Item 264.15(b)(1)	Frequency^a 264.15(b)(4)	Types of Problems 264.15(b)(3)
Tanks	D*	Visually inspect aboveground parts of tank system (tank shell and bottom piping and valves, pumps, tank supports and construction materials) for corrosion, deterioration leaks and spills.
	D*	Visually inspect secondary containment and the area around the tank system for corrosion, cracks, erosion of construction materials and releases.
	D*	Review data from air and liquid monitoring and leak detection equipment (e.g., level sensors). Verify that monitoring and leak detection equipment is operating properly and is calibrated properly. Review operating record to ensure waste in tanks has been properly decontaminated
	DW	Visually verify the amount of waste present in the tanks.
Piping and valves	D*	Visually inspect for evidence of corrosion and leakage.
Tank structure	D*	Visually inspect for evidence of corrosion, erosion, leaking seams or fixtures.
Pumps	D*	Visually inspect connections for evidence of obvious mechanical failure. Check for excessive noise and vibration.
Tank supports	D*	Visually inspect for evidence of corrosion.
Secondary containment system and containment sumps	D*	Visually inspect for evidence of cracks, erosion of construction materials or other physical damage.
Level sensors/sight glasses	D*	Check for proper operation at monitor panel in CMO. Visually inspect sight glass for liquid level and leaks.
Overfill/spill control equipment	D*	Visually inspect for evidence of corrosion, leakage or other physical damage.
BRINE TRANSFER LINES* transfer lines are inspected weekly when not in operation		
All lines between the Brine Drying Area and the Demilitarization Facilities	D*	Visually inspect for evidence of corrosion, leakage or other physical damage.
Pipe supports	D*	Visually inspect pipe holders and frames for evidence of corrosion, leakage or other physical damage.
VENTILATION SYSTEMS* all ventilation systems are inspected prior to placing in service and daily when in use		
General ventilation system	D*	Visually inspect for evidence of corrosion or malfunctions.
Pressure sensors	D*	Check for pressure drop.
Airflow	D*	Check for pressure drop.
Internal mechanical	When filters are changed	Visually inspect for evidence of corrosion and excessive wear.
Area chemical agent monitors	D	Visually inspect to ensure required monitors are present and operational.
	D	Check for agent challenge.

Table 5-1 INSPECTION SCHEDULE		
Item 264.15(b)(1)	Frequency^a 264.15(b)(4)	Types of Problems 264.15(b)(3)
<u>All Hazardous Waste Sumps (BDA, BIF, ECC SEG, , LAB 541, MDF, MPF, RSA, CDS, VSA, CTF, CAMDS Lab, SMF, MTF & TMF, etc.) *Sumps are inspected weekly when systems are not in operation</u>		
Sump structure	D*	Visually inspect for evidence of corrosion, erosion, leaking seams or fixtures, and presence of waste when not in operation
Piping and valves	D*	Visually inspect for evidence of corrosion and leakage.
Pumps	D*	Visually inspect for evidence of obvious mechanical failure. Check for excessive noise and vibration.
Secondary containment system and containment sumps	D*	Visually inspect for evidence of cracks, erosion of construction materials or other physical damage.
Level/moisture sensors	D*	Check for proper operation at monitor panel in CMO.
Overfill/spill control equipment	D*	Visually inspect for evidence of corrosion, leakage or other physical damage.
Sump integrity for sumps without secondary containment	A	Perform integrity assessment to confirm sump integrity.
EMERGENCY GENERATORS		
Engine generator	M	Start unit with uninterruptable power supplies or air as required. Check governor speed. Check voltage output regularity. Check for any unusual noise. Check electrical phase output balance.
COMMUNICATION		
Radio (Demilitarization Protective Ensemble)	W	Check for proper operation and audibility.
Public address	W	Check for proper operation and audibility.
Closed-circuit television	W	Check for visual clarity, tilt, pan and zoom function.
SECURITY		
Gates	D	Operate Sallyport vehicle and personnel gate interlock override to assure capability for emergency ingress/egress.
Fence	D	Check for integrity, intrusion or obstruction by vegetation, and gaps at fence base.
Alarms (Building pull box)	S	Check for operability.
Extinguishers (Hand Held)	M	Check for condition and gauge pressure.
Fire suppression system for control room	M	Visually check for proper pressure.
Smoke detectors	S	Check for operability.
2 1/2" Drain Test	Q	System check for transmitter operability and flow detection.
Wet and dry sprinkler systems	A	Check for operability with trip tests.
Fire hydrants	A	Check for water distribution flow.